

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

MGT
Grant

In the Matter of the Petition of Santa)
Ynez Community Services District on)
Behalf of the Solvang Municipal Improve-)
ment District Requesting State Board)
Consideration of Grant Funding of Con-)
veyance Facilities Associated With)
Project No. C-06-1108.)

ORDER NO. WQG 76-22

BY BOARD MEMBER DODSON:

On April 23, 1976, the Santa Ynez Community Services District (petitioner) petitioned the State Water Resources Control Board (State Board) for review of certain Division of Water Quality decisions. On November 1, 1976, petitioner filed an amended petition which clarified the issues for appeal.

On November 9, 1976, a hearing was held for the purpose of receiving evidence relative to the appropriateness and propriety of the determinations of the Division of Water Quality. After the receipt of substantial evidence, the record was left open until November 19, 1976 for the receipt of additional evidence.

I. BACKGROUND

The community of Santa Ynez has been subject to an acknowledged and documented public health hazard for several years resulting from the failure of private waste disposal systems. As a consequence of the serious problems caused by the health hazard, including a ban on building, the community proposes to build a sewage collection system and interceptor to convey its wastewaters

to the Solvang treatment plant and to expand that plant to accommodate the increased flows. Because the Solvang treatment plant is located on the south side of the Santa Ynez River and Santa Ynez is on the north side, a river crossing is necessary for the interceptor which will convey Santa Ynez's wastewater to the plant.

The community of Solvang, which is also on the north side of the river, has an existing river crossing buried in the riverbed which is used to convey its waste to the plant. After approximately 8 years of use, this crossing was washed out in the floods of 1969. It was then replaced with the assistance of the U. S. Army Corps of Engineers, but the replacement was put in the same place and depth as the previous river crossing, and as such, is likely to be washed out again. In light of this problem, Solvang would like to participate in the construction of a joint river crossing with Santa Ynez.

Three methods of jointly crossing the river were considered to be viable possibilities. One alternative requires attaching the sewer to an existing structure, the Alisal Bridge. Since a significant portion of Solvang's wastewater is conveyed to a point downstream of the bridge, Solvang would have to pump its wastewater back up to the bridge for crossing. A second possibility involves constructing a pile structure which would cross near the existing riverbed crossing. The third alternative requires constructing a new gravity sewer sufficiently deep in the riverbed to prevent washout.

In a letter dated October 22, 1976, the Division of Water Quality notified the petitioner that the Alisal Bridge crossing was the most cost-effective solution to the water quality problems of both communities. The Division also reaffirmed its prior determination that a river crossing for Solvang was not of sufficiently high priority to permit grant funding as it was not a Class A interceptor.

II. CONTENTIONS AND FINDINGS

Petitioner contends that the most cost-effective solution to the water quality problems in the Santa Ynez-Solvang region is a deep gravity sewer crossing which would run roughly parallel to, but deeper than the existing interceptor. Petitioner's contention is based on factors such as reliability, visual impact, and conservation of energy resources as well as monetary costs. The Division of Water Quality contends that the Alisal Bridge crossing is the most cost-effective solution to the water quality problems of both communities, based on a consideration of factors similar to those cited by the petitioner.

Petitioner also contends that the approach to the water quality problems at issue herein must be a regional approach, and that a solution which will consider and substantially aid both communities must be developed. Assuming this approach is to be taken, petitioner cites the California Administrative Code, [Title 23, Chapter 3, Subchapter 7, Section 2108(e)]:

"If treatment works fall in more than one priority class, the treatment works will be placed on the highest priority class applicable to the treatment works, provided, however, that any portion of the treatment works which does not meet the criteria of the higher class may be excluded from the higher priority class and placed in the appropriate lower class or be declared ineligible for grant, as determined by the division."

Petitioner asserts that it is an abuse of discretion for the Division of Water Quality to exclude Solvang's share of a regional project from the higher priority class. The Division responded that staff has traditionally interpreted Section 2108(e) as permitting the Division, in its discretion, to place treatment works in a higher priority class than they would normally merit if they are part of a larger project that falls within a high priority class.

Moreover, the Division asserted that it had used this discretionary power in an effort to avoid the delays inherent in the hearing process and in an attempt to lead the project to a speedy conclusion by offering to make the jointly used portions of the bridge crossing alternative fundable to the 20 year capacity of both communities. This offer was contingent upon the submission of a joint powers agreement by January, 1977, Solvang's use of the joint river crossing within a period acceptable to the Regional Water Quality Control Board, and Solvang's acceptance of the Division's determination that the bridge crossing was the most cost-effective alternative. This offer was rejected by the petitioner and withdrawn by the Division for purposes of the hearing.

The Division argued that it would not be an appropriate use of its discretion under Section 2108(e) to place those parts of the treatment works which solely served Solvang within a fundable priority class, since the primary objective of the project was to deal with Santa Ynez's water quality problems.

At the hearing, petitioner also argued that even if the project were viewed as primarily for Santa Ynez's benefit, and if in this context the Alisal Bridge were found to be the most cost-effective alternative, then the pump station and force main which would be necessary to bring Solvang's wastewater to the bridge would be eligible for funding as a Class A interceptor because it is an interceptor that "brings about or promotes desirable consolidation of treatment works consistent with a water quality control plan", (California Administrative Code, Title 23, Chapter 3, Subchapter 7, Section 2102(v)(1)(B)).

The Division of Water Quality responded that the force main and pump station thus alluded to was not an interceptor because its primary purpose was not "to transport wastewater from an entire community to a treatment plant, either by itself or in conjunction with another interceptor or interceptors", (California Administrative Code, Title 23, Chapter 3, Subchapter 7, Section 2102(v)). The Division argued that it has traditionally applied the further limitation in this section that the term does not include facilities whose primary purpose is the collection or

transportation of wastewaters from less than an entire community, despite petitioner's argument that the section permits a community to have more than one interceptor and still be grant fundable.

As a final contention, petitioner asserts that the denial of the funding which they have requested will impose a serious financial hardship on the Solvang Municipal Improvement District. Evidence was presented as to present water and sewer charges, the balances in various District funds and existing bonded debt and loans; additional information was presented outlining property taxes and the economic composition of the community.

We have reviewed and considered all of the above factors in coming to our decision on the issues raised by this appeal. After analyzing the contentions of both petitioner and staff as to the most cost-effective means of crossing the Santa Ynez River, we have concluded that the Alisal Bridge crossing is the most appropriate alternative. This does not preclude petitioners from analyzing further other alternatives at their own cost. However, unless there is a modification of this order by the Board on further demonstration by petitioners within the time schedule set out by the Regional Board, the grant funding will be given only if the Alisal Bridge alternative is constructed.

Having determined that the most cost-effective method of crossing the river is via the Alisal Bridge, we now turn to petitioner's contention that the force main and pump station which would deliver a significant portion of Solvang's wastewater to the bridge, is a Class A interceptor and thus in a fundable

category. The phrase "either by itself or in conjunction with another interceptor or interceptors" was not intended for application to the situation encountered here. Under similar circumstances, staff, with State Board support, has consistently required that an entire community be served by one line in order for the line to be considered an interceptor. We do not feel that the present situation warrants a deviation from that practice.

The State Board recognizes the need to view projects in their regional context. With this in mind, we have considered the application of Section 2108(e), as cited above, to the issues confronting us. Both Solvang and Santa Ynez have clear water quality problems and good planning dictates that we seek to solve them simultaneously. However, with only limited funds available for use, we are forced to set priorities. Operating within this limitation, we have concluded that the Division of Water Quality did not abuse its discretion (Section 2108(e)) in offering to make jointly used portions of the bridge crossing alternative fundable to the 20 year capacity of both communities, while placing the force main and pump station that would deliver Solvang's wastewater to the Alisal Bridge in a lower priority class. We are aware that the staff withdrew this offer for the purposes of the hearing, but we now choose to adopt it as part of our decision. We do not feel, based on the extensive evidence which we have received and reviewed, that it would be appropriate for either the staff or the State Board to decide otherwise.

One of our major concerns in reviewing this project is the extensive delays which have impeded its progress to date. In an effort to bring the project to a speedy conclusion, we have decided to place two conditions on the funding for Solvang's portion of a joint river crossing. First, a joint powers agreement or service contract which complies with the fair and equitable guidelines of the Water Quality Division must be adopted by both districts. It must be submitted to and approved by the Division no later than March 1, 1977. We feel that this condition is consistent with the grant contract for construction of Solvang's treatment facilities which requires Solvang "to provide service to existing and future participating agencies, persons, and users on a fair and equitable basis". (See Grant Contract, Project No. C-06-0835-010, p. 5, Section 13f).

Secondly, should Solvang agree to participate in the joint crossing we will require that Solvang actually begin to use this joint crossing within two years of completion of its construction. We believe that this will give Solvang the necessary time to finance the construction of the pump station and trunk lines that will convey its wastewaters to the bridge. It should be noted that the State Board would not look favorably upon funding a project by Solvang to build a separate river crossing for itself at a later date, rather than to participate in the joint river crossing which is presently being contemplated.

The State Board does take into consideration the ability of a community to finance non-grant fundable facilities on its own.

We recognize that the burden of the costs of construction will be felt by the Solvang community; however, we do not feel that this burden would create a serious financial hardship. Our calculations indicate that Solvang's local share of the eligible portions of the joint river crossing facilities would be approximately \$120,000. It appears that cash funds are presently available to fund Solvang's share of the eligible joint facilities. Further funds would not have to be available until construction of the pump station and force main to the bridge was undertaken. These funds could be raised by several possible methods as explored in the hearing. It should be noted that evidence at the hearing indicated that substantial savings might be possible if a package type pump station were used. Solvang's costs will hopefully decrease considerably when this option is explored.

III. CONCLUSION

After a review of the entire record, we conclude as follows:

1. The Alisal Bridge alternative is the most cost-effective solution to the river crossing problem.
2. The force main and pump station which would deliver Solvang's wastewater to the bridge is not an interceptor, as that term is defined in grant regulations.
3. The jointly used portions of the river crossing facilities are grant fundable to the 20 year capacity of both communities under Section 2108(e) of the grant regulations.

4. This funding is conditioned upon the approval by the Division of Water Quality, by March 1, 1977, of a joint powers agreement or service contract adopted by the districts. This agreement shall comply with the fair and equitable guidelines of the Division of Water Quality.

5. Funding is also conditioned upon Solvang's use of the joint crossing within two years of completion of its construction.

6. Good cause does not exist for the State Board to exercise its option under Section 2110 of the grant regulations to adjust the Fiscal Year 1976-77 Priority List to include in Class I as part of Project No. C-06-1108 conveyance facilities to deliver wastewater from Solvang to the Alisal Bridge river crossing.

NOW, THEREFORE, IT IS ORDERED that this matter be remanded to the Division of Water Quality for processing of the application of the petitioner in a manner consistent with this order.

Dated: December 16, 1976

/s/ Roy E. Dodson
Roy E. Dodson, Member

WE CONCUR:

/s/ John E. Bryson, Member
John E. Bryson, Chairman

/s/ W. Don Maughan
W. Don Maughan, Vice Chairman

/s/ W. W. Adams
W. W. Adams, Member

ABSENT

Jean Auer, Member

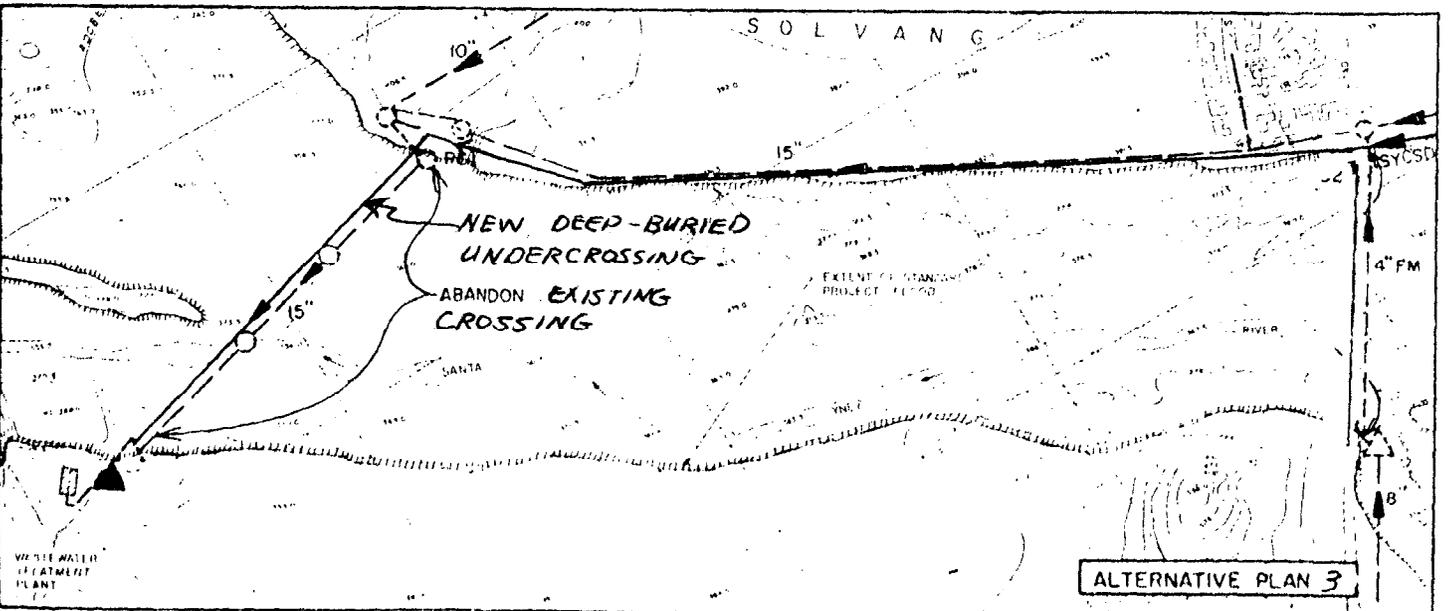
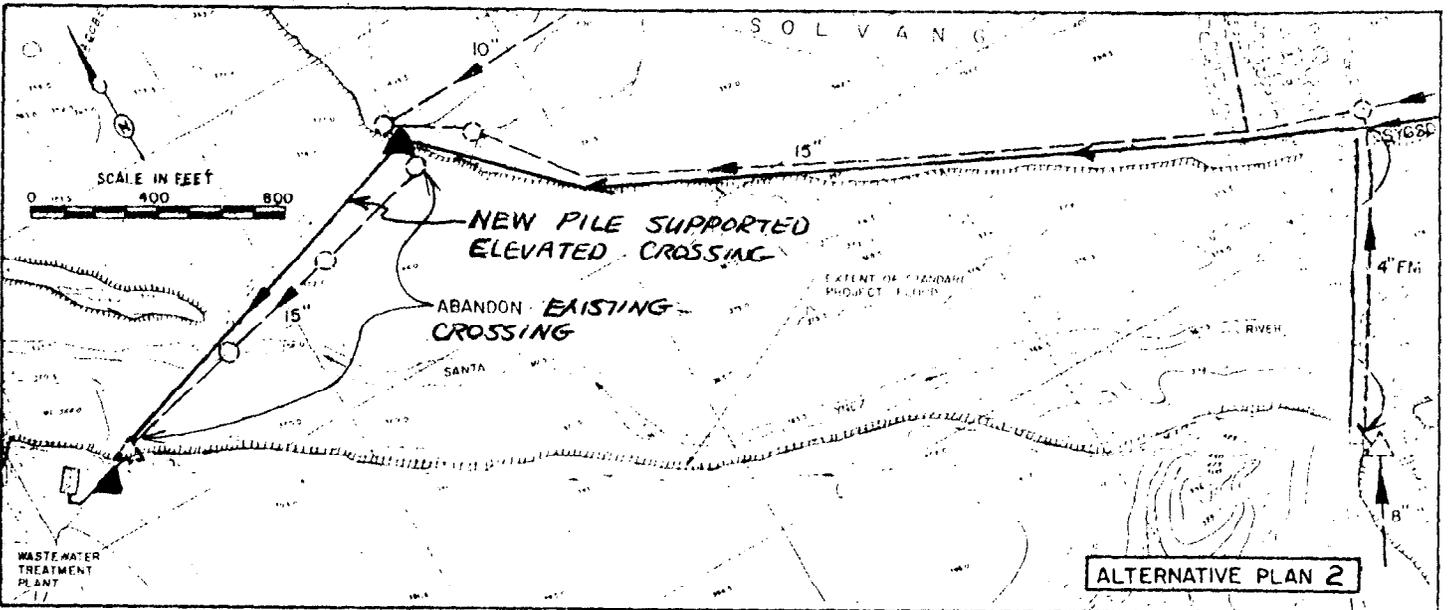
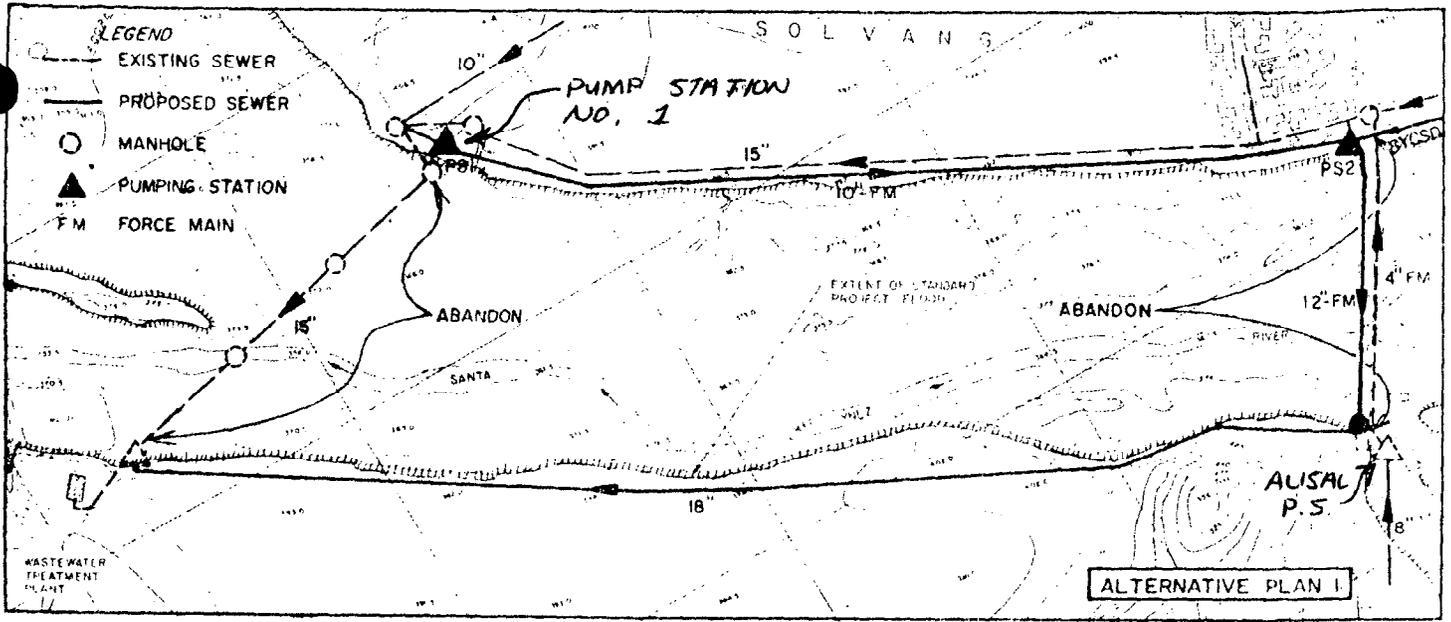


Fig. 1. Alternative Plans

1-1



STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of)
The Friends of Ventura River for)
Review of Order No. 75-55 (NPDES)
Permit No. CA0053961) of the)
California Regional Water Quality)
Control Board, Los Angeles Region)

Order No. WQ 76-22

BY THE BOARD:

On April 21, 1975, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) adopted Order No. 75-55 (NPDES Permit No. CA0053961) providing waste discharge requirements for the Oak View Sanitary District's (discharger) discharge to the Ventura River.

On May 20, 1975, the Friends of the Ventura River (petitioner) filed a petition for review of Order No. 75-55. The petition raises both technical and legal issues.

I. BACKGROUND

The petitioner "...is a citizens organization whose principal objective is the protection and rehabilitation of the fish and wildlife resources of the Ventura River...for use and enjoyment of current and future generations."^{1/} The discharger operates a sewage treatment plant located at 5891 North Ventura Avenue, Ventura, California, which discharges an average daily flow of 1.45 mgd of treated municipal wastewater to the Ventura River. "The treatment plant serves a sewered population of approximately 15,600 and an area of about 13 square miles which

^{1/} Supplement to the petition filed July 15, 1976.

includes the Oak View, Meiners Oaks, and Ventura Avenue Sanitary Districts and the City of Ojai. Practically all of the sewage reaching the treatment plant is of a domestic origin. The existing facility is a secondary treatment plant which provides biological treatment and anaerobic sludge digestion...."^{2/}

The beneficial uses of the receiving waters include water-contact recreation, non-water contact recreation, fish spawning and migration, agricultural supply, groundwater recharge, industrial service supply and industrial process supply, cold freshwater habitat, wildlife habitat, and (within the tidal prism) saline water habitat, marine habitat, commercial ocean and sport fishing, and shellfish harvesting.^{3/}

II. CONTENTIONS AND FINDINGS

The contentions of the petitioner and our findings relative thereto are as follows:

1. Contention: The petitioner requests that Effluent Limitation A.7 of Order No. 75-55, providing that the pH of discharged waste shall be 6.5 to 9.0^{4/}, be changed to a range of 6.5 to 8.5 in conformity with the applicable Water Quality Control Plan^{5/} and that the pH not be permitted to fluctuate more than 0.2 pH units per hour.

Findings: The pH limitations prescribed by the Water

^{2/} Part II, Chapter 16, Page 50, Water Quality Control Plan Report, Santa Clara River Basin (4A)

^{3/} Table 2-3, Present and Potential Beneficial Uses in the Santa Clara River Basin, Chapter 2, Water Quality Control Plan Report, Santa Clara River Basin (4A)

^{4/} Effluent Limitation A.7 provides:

"The pH of wastes discharged shall at all times be within the range of 6.5 to 9.0."

^{5/} Water Quality Control Plan Report, Santa Clara River Basin

Quality Control Plan for the receiving waters of the lower Ventura River provide:

"The pH shall not be depressed below 6.5, nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR) or saline (SAL) beneficial uses nor 0.5 units in fresh waters with designated COLD or WARM beneficial uses."

The current effluent limitations on Ph of 6.5 to 9.0 have historically resulted in compliance with the foregoing receiving water objectives.^{6/} While the petitioner requests that the pH level not be allowed to change more than 0.2 units per hour the Water Quality Control Plan allows pH changes of 0.5 units from ambient receiving waters. This limitation is adequate in terms of pH fluctuations inasmuch as most fish species can tolerate large, rapid changes in pH without adverse effects.^{7/}

However, there is no mention in the Order of the receiving water limitation for pH. While General Requirement B.4^{8/}, of Order No. 75-55 provides that the discharge of waste shall not result in a violation of any applicable water quality objective for receiving waters, the Order should specifically provide that:

The pH of the receiving waters shall not be depressed below 6.5, nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 units.

^{6/} See Table No. 16-15, Water Quality Control Plan Report, Santa Clara River Basin (4A), and Oak View Sanitary District's monthly self-monitoring data for 1974 and 1975.

^{7/} See Water Quality Criteria, second edition, McKee and Wolf, Publication 3-A, California State Water Resources Control Board, pp. 235-237.

^{8/} General Requirement, B.4, provides:

"This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards."
(Emphasis added.)

2. Contention: The petitioner contends that Effluent Limitation A.9 of Order No. 75-55 providing that the temperature of discharged wastes shall not exceed 90°F.,^{9/} will not protect the cold freshwater habitat and requests that the discharge not be allowed to raise the temperature of the receiving waters more than 5°F. and that the maximum temperature of discharged wastes not exceed 80°F.

Findings: The temperature limitation required by the Water Quality Control Plan for the receiving waters provide:

"At no time or place shall the temperature of any COLD water be increased by more than 5°F. above natural receiving water temperature."^{10/}

General Requirement B.4, of Order No. 75-55 makes the foregoing requirement applicable to discharger. Due to the natural variations in both the flow and temperature of the Ventura River it would be difficult to establish a specific maximum temperature for the discharger's effluent that would not result in a receiving water temperature increase of more than 5°F. at any given time. Inasmuch as the requested 10°F. reduction in the effluent limitation for temperature is only an additional method for assuring that which is already required by General Requirement B.4 of the Order, we find that Order No. 75-55 is appropriate as it stands. However, for purposes of clarity the following limitation should be included in the permit to implement the provisions of the Water Quality Control Plan:

^{9/} Effluent Limitation A.9 provides:

"The temperature of the wastes discharged shall not exceed 90°F."

^{10/} See Footnote 5.

At no time or place shall the temperature of the receiving water be increased by more than 5°F.

3. Contention: The petitioner asserts that Order No. 75-55 contains no limitation for dissolved oxygen (D.O.) and requests that the Order be modified to provide that the D.O. level shall not be depressed below 7 mg/l during the spawning season.

Findings: The D.O. limitations required by the Water Quality Control Plan for the receiving waters provide:

"The mean annual dissolved oxygen concentration shall be greater than 7 parts per million (ppm) provided that no single determination shall be less than 5.0 ppm, except when natural conditions cause lesser concentrations. Additionally, for cold surface streams and cold water spawning streams the dissolved oxygen content shall not fall below 6.0 and 7.0 mg/l respectively, as the result of waste discharge."^{11/}

Since the lower Ventura River is classified as both a cold surface stream and a cold water spawning stream, the foregoing requirement is incorporated in Order No. 75-55 by General Requirement B.4, providing that the discharge shall not cause a violation of applicable receiving water objectives. However, as indicated above, significant receiving water limitations should be placed in the Order. Therefore, the Order should specifically provide:

The dissolved oxygen concentration of the receiving waters shall not be depressed below 7 parts per million except when natural conditions cause lesser concentrations.

Given the importance of the D.O. parameter in the receiving waters, the variability of the flow in the lower Ventura River and in order to evaluate the effect of the waste discharge on the D.O. level in the receiving water during the river's annual cycle, the monitoring requirements for the discharger should be amended to require monthly receiving water monitoring for D.O. for

^{11/} See Footnote 5, supra.

not less than a twelve-month period. The Order is not otherwise inappropriate regarding this contention.

4. Contention: The petitioner contends that Effluent Limitation A.2 providing that total dissolved solids (TDS) shall not be discharged in concentrations exceeding 1,500 mg/l,^{12/} will degrade the receiving waters and requests that Order No. 75-55 be modified to provide that receiving water TDS not be increased by more than one-third of that which exists above the point of discharge.

Findings: The Water Quality Control Plan objective for TDS in the Ventura River receiving waters is 800 mg/l at Casitas Vista Road, several miles above the discharger's outfall, and 1,500 mg/l at Shell Road, several miles below the outfall.^{13/} It is apparent that the 1,500 mg/l TDS effluent limitations will satisfy the 1,500 mg/l TDS limitations at the Shell Road monitoring station several miles downstream from the outfall.

Because of the large seasonal variations in the flow and in the water quality of the Ventura River, the petitioner's request that the TDS limitation be based on the variable upstream TDS concentration by more than 1/3 would result in an unreasonable limitation in that it would require frequent, if not continuous monitoring of the upstream TDS levels. The discharge requirement of 1,500 mg/l for TDS should not adversely affect the beneficial use of the receiving waters. TDS levels of up to 2,000 mg/l should not interfere with freshwater fish and aquatic life.^{14/}

12/ Effluent Limitation, A.2, provides:

"The discharge of an effluent in excess of the following limits is prohibited:

<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>
Total dissolved solids	lbs/day mg/l	37,500 ---	37,500 1,500"

13/ See Footnote 5, supra.

14/ See Footnote 7, supra.

We conclude that Order No. 75-55 is sufficient to achieve the TDS objective in the Water Quality Control Plan and to protect the beneficial uses of the receiving water even under conditions of no natural flow in the Ventura River and is appropriate in its present form.

5. Contention: The petitioner maintains that Order No. 75-55 does not adequately control sewage sludge and requests the insertion of the following language in the permit -- "No treated or untreated sewage sludge shall be discharged to the Ventura River..."

Findings: Provision C.8 of Order No. 75-55 provides that the discharge of wastes at any location other than provided by the permit constitutes a violation of the permit^{15/} and Effluent Limitation A.1 prohibits the discharge of wastes other than as provided by the permit.^{16/} Order No. 75-55 does not allow for the discharge of treated or untreated sewage sludge by the discharger and any such discharge would constitute a violation of the Order. We conclude that no additional language regarding the discharge of sludge need be included in Order 75-55.

6. Contention: The petitioner asserts that the level of ammonia nitrogen in the discharger's effluent is toxic to aquatic life and requests that provision be made in Order No. 75-55 to assure the protection of aquatic life.

^{15/} Provision C.8 provides:

"Any discharge of wastes to navigable waterways or tributaries thereto at any point(s) other than specifically described in this permit is prohibited, and constitutes a violation of the permit."

^{16/} Effluent limitation A.1 provides:

"1. Wastes discharged shall be limited to treated municipal wastewater, as proposed."

Findings: There is no effluent limitation for ammonia nitrogen in Order No. 75-55 and Finding No. 4 of the Order indicates that the annual average concentration of ammonia nitrogen in the discharger's effluent is 16.3 mg/l. Depending upon the pH, temperature and presence of total dissolved solids in the blended effluent and receiving waters, ammonia nitrogen will form varying amounts of un-ionized ammonia.^{17/} A survey of technical literature indicates that in order to protect aquatic life, concentrations of un-ionized ammonia in receiving waters should not exceed 0.02 mg/l to 0.025 mg/l. Calculations based upon the dischargers self-monitoring data for the receiving waters in the Ventura River^{18/} reveals concentrations of ammonia in the receiving waters in excess of the foregoing values downstream of the dischargers outfall over a thirteen-month period.¹⁹ There is no record of toxic concentrations of ammonia nitrogen nor is there any record of fish kills upstream of the discharge. Discharger "Self-Monitoring" reports for the upstream receiving water station are of little value because of the limitations in analysis for low concentrations of ammonia nitrogen.

^{17/} The term "ammonia nitrogen" and the test outlined for ammonia nitrogens set forth in Standard Methods for the Examination of Water and Wastewater, 13th Edition, includes ammonia (NH_3), the hydrated form of ammonia ($\text{NH}_3; \text{nH}_2\text{O}$) and ammonium ions (NH_4^+). The toxic form of ammonia nitrogens is the un-ionized ammonia species [NH_3] and [$\text{NH}_3; \text{nH}_2\text{O}$]. The quantity of ammonia nitrogen which will form toxic ammonia will vary with the temperature and pH of the mixing effluent and receiving water and the toxicity of ammonia nitrogen can change markedly while the concentration of ammonia nitrogen remains at a constant value.

^{18/} See Appendix A

^{19/} November 1974 through November 1975.

Order No. 75-55 limits the discharge of ammonia nitrogen by General Requirement B.6 which provides that "waste discharged shall not cause receiving waters to contain any substance in concentrations toxic to...fishlife". However, because of the potential toxicity of ammonia nitrogen a specific limitation of 10 mg/l average concentration of ammonia nitrogen(N) should be included in Order No. 75-55. This limitation is based on the allowable un-ionized ammonia concentration in the receiving waters of 0.02 mg/l and the receiving waters' ability to accept un-ionized ammonia providing for reservation of 25 percent of the available assimilative capacity of the receiving waters.

The 10 mg/l ammonia(N) effluent limitation is a technically achievable limit utilizing a nitrification treatment process.

7. Contention: The petitioner asserts that specification of the Three-spine Stickleback in Monitoring and Reporting Program No. 4245,^{20/} is inappropriate because this species is more tolerant of stress than other species (e.g., Trout) indigenous to the Ventura River and recommends the use of juvenile Rainbow Trout as the test species.

20/ Monitoring and Reporting Program No. 4245 requires:

An in-situ bioassay shall be conducted quarterly by the discharger directly in receiving waters at the time receiving water monitoring is conducted. Three-spine stickleback (*Gasterosteus aculeatus microcephalus*) shall be used as the test fish. Ten (10) stickleback shall be placed in a perforated, non-metallic container (live car) no smaller than one cubic foot. Perforations shall be of sufficient size and number so as to retain test fish 20 to 50 millimeters long (total length) and to permit nearly unrestricted flow through the live car. One live car shall be placed at Station R-1 or in the near vicinity upstream of the discharge. A second live car shall be placed at Station R-2. The live car at Station R-2 shall be located specifically where the diluted waste effluent continuously flows through the test container. The bioassay test shall be conducted for a 96-hour duration. Survival counts shall be made and the numbers of surviving fish reported for the 24, 48, 72, and 96-hour exposure periods. The results of these in-situ bioassays shall be reported to the Board in each monthly report.

Findings: While it is commonly recognized that Rainbow Trout are more sensitive than the Stickleback and, therefore, a more desirable test fish for purposes of in-situ bioassays, trout fry are not commercially available in small quantities in Southern California and it is not feasible to transport trout fry over long distances or maintain trout fry for long periods prior to their use for bioassay purposes. Under these circumstances, we believe the specification of Stickleback in Monitoring and Reporting Program No. 4245 is appropriate.

8. Contention: The petitioner maintains that Effluent Limitation A.12, of Order No. 75-55 providing that "...a minimum of 90 percent of the test organisms in a standard bioassay shall survive in undiluted effluent at least 50 percent of the time, and 70 percent shall survive at least 90 percent of the time..." should be more stringent.

Findings: In a standard toxicity bioassay, ten fish are usually tested. If a 90 percent survival rate is required (as requested by the petitioner) at all times, only one fish may expire in any given test. This requirement would place an unreasonable burden on the discharger because it does not allow for deaths which may occur because of inconsistencies in the test fish and problems which can arise in the transportation and storage of the test fish. The statistical approach to survival rates as adopted in Order No. 75-55 is the approach which has been recognized by the State Board in the Water Quality Control Policy for the Enclosed Bays and Estuaries of California and we find that the survival rates specified in Effluent Limitation A.12 of Order No. 75-55 are not inappropriate.

III. CONCLUSIONS

After review of the record, and for the reasons heretofore expressed, we have reached the following conclusions:

1. To clarify Order No. 75-55 the Regional Board shall modify the Order to include specific receiving water and effluent limitations as discussed for pH, temperature, dissolved oxygen, and ammonia nitrogen.
2. The Executive Officer of the Regional Board should modify the monitoring program for D.O. as discussed under Contention 3 of this Order.

IV. ORDER

IT IS HEREBY ORDERED, that Order No. 75-55 is remanded to the California Regional Water Quality Control Board, Los Angeles Region, for amendment of the monitoring program and for further investigation in accordance with this Order.

Dated: NOV 18 1976

/s/ John E. Bryson
John E. Bryson, Chairman

/s/ W. Don Maughan
W. Don Maughan, Vice Chairman

/s/ W. W. Adams
W. W. Adams, Member

/s/ Roy E. Dodson
Roy E. Dodson, Member

ABSENT
Jean Auer, Member

APPENDIX A

Oak View Sanitary District - Receiving Water Data From Self-Monitoring Reports, November 1974 to November 1975

STATION RW2 50 ft. below discharge point

Date	Ammonium Nitrogen Concentration mg/l	pH	Temperature °F ** °C	Calculated Ammonia (NH ₃) Concentration mg/l*
11/26/74	7.0	7.5	58 14.44	.05
12/30/74	3.6	8.1	55 12.78	.089
1/28/75	4	7.9	57 13.89	.068
2/25/75	<0.1	8.2	62 16.67	<.004
3/25/75	1	8.4	68 20	.080
4/29/75	8	8.2	69 20.56	.432
5/27/75	3.6	7.9	64.5 18.05	.083
6/24/75	6.2	7.8	68 20	.133
7/29/75	<1	8.2	71 21.67	<.058
8/26/75	7	7.5	73 22.78	.092
9/30/75	6	7.5	72 22.22	.076
10/28/75	8	7.5	63 17.22	.070
11/18/75	10	7.5	60 15.56	.078

*Assume TDS concentration of 750 mg/l

**Reported as °F

Calculated ammonia concentration based on tables provided in:
Tables of the Fraction of Ammonia in the Undissociated Form
for pH 6 to 9, Temperature 0-300, TDS 0-3000 mg/l, and Salinity
5-35 g/kg, H.P. Skarheim, Sanitary Engineering Research Laboratory,
 College of Engineering, School of Public Health, University of
 California, Berkeley, SERL Report No. 73-5, June 1973.

APPENDIX A(cont.)

Station RW4 1000 yds. below discharge point

Date	Ammonium Ni- trogen Con- centration mg/l	pH	Temperature		Calculated Ammonia Concentration mg/l*
			o _F **	o _C	
11/26/74	4.6	7.5	61	16.11	.037
12/30/74	2.4	8.2	54	12.22	.071
1/28/75	2	8.1	59	15	.058
2/25/75	< .1	8.2	62	16.67	< .004
3/25/75	2	8.3	64	17.78	.111
4/29/75	2	8.2	71	21.67	.117
5/27/75	1.6	7.9	64	17.78	.036
6/24/75	2.0	8.0	68	20	.067
7/29/75	< 1	8.2	73	22.78	< .063
8/26/75	2	7.1	74	23.33	.011
9/30/75	5	7.4	71	21.67	.049
10/28/75	6	7.5	65	18.33	.058
11/18/75	8	7.6	59	15	.075

* Assume TDS concentration of 750 mg/l

** Reported as o_F

APPENDIX A (cont.)

Station RW3 400 yds. below discharge point

Date	Ammonium Ni- trogen Con- centration mg/l	pH	Temperature		Calculated Ammonia (NH ₃) Concentration mg/l
			o _F **	o _C	
11/26/74	5.4	7.3	61	16.11	.028
12/30/74	3.4	8.1	55	12.78	.084
1/28/75	3	8.1	59	15	.087
2/25/75	< .1	8.5	62	16.67	< .008
3/25/75	2	8.5	68	20	.197
4/29/75	2	8.5	70	21.11	.211
5/27/75	2.6	8.1	64	17.78	.093
6/24/75	3.8	7.9	68	20	.101
7/29/75	< 1	8.3	73	22.78	< .078
8/26/75	3	7.6	75	23.89	.054
9/30/75	7	7.5	71	21.67	.085
10/28/75	6	7.5	65	18.33	.058
11/18/75	8	7.6	59	15	.075

* Assume TDS concentration of 750 mg/l

** Reported as o_F